basque center for applied mathematics

EXCELENCIA SEVERO OCHOA

IC2026_07_02 BCAM International Call

Research Technician in Complex systems modelling in networks with higher-order interactions

Job Offer	
Topics:	**BCAM, the Basque Center for Applied Mathematics is hiring a Research Technician in Complex systems modelling in networks with higher-order interactions and work under the supervision of Prof. Miguel Aguilera.** **We are searching for a promising profile who is eager to kickstart their career as a researcher.** The technician will develop and run numerical simulations of simplified systems exhibiting multi-body and multi-time higher-order interactions (e.g. higher-order Markov chains, mean-field spin models, contagion and synchronization models on hypergraphs), implement and test inference algorithms for decomposing transition matrices into higher-order interaction components, and support the theoretical team in exploring phase diagrams, critical points, and dynamical properties of these models through computational experiments. the object of the contract will be modelling, simulation, and inference support for the study of higher-order interactions in complex dynamical systems.
PI in charge:	Miguel Aguilera
Salary and conditions:	The gross annual salary of the Research Technician will be 20.663€ - 29.075€, depending on the candidate's experience.
Nº Positions offered:	**1**
Contract and offer:	**1 year**
Deadline:	**21st August, 2026, 14:00 CET (UTC+1)**
How to apply:	Applications must be submitted on-line at: https://joboffers.bcamath.org

IC2026_07_02 BCAM International Call

Scientific Profile Requested	
Requirements:	• Degree in Physics, Mathematics, Computer Science, Engineering, or related field .
Skills and track-record:	Although the requirements can be adapted to the different candidate profiles, a strong candidate needs to possess the following skills: • Experience with self-consistent numerical methods, mean-field theory, or numerical diagonalization • Solid grounding in statistical mechanics and/or condensed matter physics (equilibrium and nonequilibrium) • Experience with at least one of: self-consistent mean-field simulations, spin/lattice models, Monte Carlo methods, or statistical inference techniques • Prior exposure to dynamical systems theory, phase transitions, or nonequilibrium statistical physics is a strong plus.
Scientific Profile:	The preferred candidate will have: • Early-career profile with a strong quantitative/computational background and genuine curiosity about complex systems

Application and Selection Process	
Formal Requirements:	The selected candidate must have applied before the application deadline online at the webpage: https://joboffers.bcamath.org The candidates that do not fulfil the mandatory requirements will not be evaluated with respect to their scientific profile.
Application:	Required documents: • CV • Letter of interest in English describing which topics the candidate is interested in researching. • 2 recommendation letters • Academic record: including undergraduate and master-level courses attended and grades and

	scientific results achieved, and research statement is NOT required (leave blank in application form).
Evaluation:	Based on the provided application documents of each candidate, the evaluation committee will evaluate qualitatively: the adaption of the previous training and career to the profile offered, the recommendation letters, the main results achieved (papers, proceedings, etc.), the statement of past and proposed future research and other merits; taking in account the alignment of these items to the topic offered.

Incorporation:	**As soon as possible**

MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

Grant PID2023-146869NA-I00 funded by MICIU/AEI/10.13039/501100011033 and cofunded by the European Union